

REMARKS

An amended Sequence Listing is submitted herewith in response to the Notice to Comply dated July . This newly amended Sequence Listing contains 61 SEQ ID NOs, whereas the original Sequence Listing contained 17 SEQ ID NOs. The additional SEQ ID NOs have been added to comply with the requirements for patent applications containing nucleotide sequence and/or amino acid sequence disclosures. This currently amended Sequence Listing should replace the previous amended Sequence Listing that was submitted on October 26, 2000, in a Preliminary Amendment. The currently amended Sequence Listing also contains the corrections to SEQ ID NOs:3 & 4 from the previously submitted amended Sequence Listing, as well as the amendments noted below.

Newly added SEQ ID NOs:18 to 53 correspond to conserved amino acid sequence motifs present in Table 7, pages 47-48 of the specification.

Newly added SEQ ID NO:54 corresponds to part of a synthetic DNA linker, and is present on line 23, page 86, of the specification.

Newly added SEQ ID NO:55 corresponds to a genomic DNA oligonucleotide sequence, and is present on line 19, page 88, of the specification.

Newly added SEQ ID NO:56 corresponds to part of a synthetic PCR primer, and is present on line 14, page 112, of the specification.

Newly added SEQ ID NO:57 corresponds to part of a synthetic DNA, BR57, and is present on line 5, page 115, of the specification.

Newly added SEQ ID NO:58 corresponds to part of a synthetic DNA, BR58, and is present on line 8, page 115, of the specification.

Newly added SEQ ID NO:59 is a conserved amino acid sequence motif present in claim 42. Support for this can be found in Table 7, pages 47 and 48, of the specification, and in SEQ ID NO:2, 4, 6, 8 and 12.

Newly added SEQ ID NO:60 is a conserved amino acid sequence motif present in claim 42. Support for this can be found in Table 7, pages 47 and 48, of the specification, and in SEQ ID NO:2, 4, 6, 8 and 12.

Newly added SEQ ID NO:61 is a conserved amino acid sequence motif present in claim 42. Support for this can be found in Table 7, pages 47 and 48, of the specification, and in SEQ ID NO:2, 4, 6, 8 and 12.

Accordingly, it is believed that no new matter has been added to the currently submitted amended Sequence Listing.

The following amendments to the specification were made to associate newly added SEQ ID NOs with the corresponding sequence in the specification.

Table 7, beginning on page 47 and continuing onto page 48, has been amended to associate SEQ ID NOs:18 to 53 with each of the conserved amino acid sequence motifs of the table. Additionally, a typographical error has been corrected for the conserved amino acid sequence motif designated SEQ ID NO:53. Support for this change is in SEQ ID NOs:51 and 52 of Table 7. As noted above in the amendments to the specification section, in Table 7, underlining below upper case letters designates conserved amino acid residues; this underlining was present in the original Table 7 and does not represent newly added text. For the purpose of this table only, new text is indicated by double underlining.

The paragraph beginning on page 85, line 31, continuing through page 86 and onto page 87, was amended to associate SEQ ID NO:54 with the appropriate sequence.

The paragraph beginning at page 88, line 13, and continuing onto page 89 of the specification, was amended to associate SEQ ID NO:55 with the appropriate sequence.

The paragraph at page 112, lines 13-21 of the specification was amended to associate SEQ ID NO:56 with the appropriate sequence. A typographical error in this paragraph was also corrected.

The paragraph beginning on page 114, line 3, and continuing onto page 115 of the specification was amended to associate SEQ ID NOs:57 and 58 with the appropriate sequences. A typographical error in this paragraph was also corrected.

Claim 42 has been currently amended to associate SEQ ID NOs:27, 30, 33, and 59-61 with the appropriate sequences.

The following additional amendments to the specification have been made in addition to the above amendments associated with SEQ ID NOs:

The paragraph at page 13, lines 16-24, has been amended to correct errors, in two places, regarding the size of the nucleotide sequence of SEQ ID NO:5. Basis for this change is in SEQ ID NO:5 of the originally submitted Sequence Listing of the specification.

The paragraph at page 13, lines 25-27, has been amended to correct errors regarding the amino acid length of the protein of SEQ ID NO:6 and the position of the open reading frame of SEQ ID NO:5. The basis for these changes are in SEQ ID NOs:5 and 6 of the originally submitted Sequence Listing of the specification.

The paragraph at page 14, lines 11-13, has been amended to correct an error in the amino acid length of SEQ ID NO:10 and in the open reading frame of SEQ ID NO:9. The basis for these changes are in SEQ ID NOs:9 and 10 of the originally submitted Sequence Listing of the specification.

The paragraph at page 14, lines 14-23, has been amended to correct reference to the position of the termination codon in SEQ ID NO:11. Support for this change is found within this paragraph and also in SEQ ID NO:11 of the originally submitted Sequence Listing of the specification.

The paragraph at page 14, lines 24-26, has been amended to correct reference to the position of the open reading frame of SEQ ID NO:11. Support for this change is found in the preceding paragraph of the specification (page 14, lines 14-23) and in SEQ ID NO:11 of the originally submitted Sequence Listing of the specification.

The paragraph beginning at page 38, line 7, and continuing through page 39, line 13, has been amended to correct the length of the amino acid sequence encoded by SEQ ID NO:7. Support for this change is found in the paragraph beginning on page 77, line 22, and also in SEQ ID NO:7 of the originally submitted Sequence Listing of the specification.

The paragraph beginning on page 39, line 17, and continuing through page 40, line 12, has been amended to correct the length of the cDNA insert in plasmid pRF2-1C. Support for this change is found on page 79, line 34, and in SEQ ID NO:9 of the originally submitted Sequence Listing of the specification.

The paragraph beginning on page 77, line 22, and continuing through pages 78 and 79, has been amended to correct reference, in two places, to the beginning of the open reading frame of SEQ ID NO:7. Support for these changes are found in this same paragraph and in SEQ ID NO:7 of the originally submitted Sequence Listing of the specification.

To avoid confusion with respect to the use of underlining for the above amended paragraphs, if a species name was originally given in the specification as normal type and underlined then the original species name has been changed to italics in the corresponding currently amended paragraphs. Thus, no new matter has been added to the currently amended paragraphs of the specification.

Claim 1 has been currently amended to correct an obvious typographical error of the word "hydroxylase".

Please charge any fees or credit any overpayment of fees which are required in connection herewith to Deposit Account No. 04-1928 (E. I. du Pont de Nemours and Company).

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,

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